CLAIMS

1. A method of constructing a musical instrument neck assembly, and central body portion having increased stiffness and stability, and having a headstock portion, and a central body portion, said neck assembly comprising; a sandwich integral structure made from graphite / carbon fiber, wood, and epoxy resins which extends completely along the length of the neck assembly into the headstock and body portions, said structure being of sufficient stiffness and strength to bear the load imposed on the assembly by a plurality of strings, and said structure comprising; a core of hardwood having a length extending completely along the neck and body assembly and headstock portion, a compression spar of unidirectional and bi-directional graphite in epoxy resins, a tension spar of unidirectional graphite cast in epoxy resins, an outer skin truss of bi-directional carbon fiber cloth at 45 ° to the longitudinal axis and epoxy resins, a string orbit relief control mechanism, and coated with a hard translucent ultra-violet protective finish.

2. The structure is designed so that load vectors acting upon it in a singular plain are controlled and redistributed into the said structure as opposing force to the original loads.

3. The method of claim two is the outer skin truss defined in claim one comprised of at least two layers of carbon fiber cloth in epoxy resins installed at 45 ° to the longitudinal axis of said structure, whereby opposing physical forces acting on the compression spar and the tension spar create a crush load in the region between the tension spar and the compression spar, these loads are redirected by said skin truss along the length of the 45 ° fibers as forces to oppose the original load placed upon the compression spar .

4. The method of claim three is a core of hardwood having adequate sheer strength and density to dispose the load from the outer skin truss at the juncture of the compression spar and said outer skin, and having sufficient strength to withstand the crush loads in the region between the compression spar and the tension spar.